

# Surviving and Thriving With Psychotechnologies

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WHEN WE THINK ABOUT A TECHNOLOGY, what usually comes to mind are electronic computers and other digital devices, electrical machinery, chemical processes, biotechnologies, and other ways of manipulating and engineering physical material. The word technology, however, means a standard technique, method, way, or craft-skill for producing goods or for efficient ways of solving problems. This meaning allows us to extend technology to psychological techniques—psychotechnologies. With attention focused on psychedelics, in this essay we'll consider (1) the idea of “psychotechnology” and what psychotechnologies are (2) how they enhance abilities, (3) the way they form one of the three foundational concepts of a multistate model of the human mind, and (4) a proposal for promoting psychotechnology research and development via dedicated mindbody institutions and/or foundations.

## Psychotechnologies

Psychotechnologies are ways of using psychological processes for a desired outcome and/or to select psychological processes such as perception, cognition, emotion, and their biological substrates. They include the mostly nonmaterial psychotechnologies such as hypnosis, meditation, contemplative prayer, sleep deprivation, and dreamwork; they include psychotechnologies that blend the nonmaterial with material including body oriented techniques such as yogas, the martial arts, and breathing techniques; and they extend to psychotechnologies that are largely material such as sensory overload, sensory isolation, and psychoactive drugs. Within this whole psychotechnological population, MAPS belongs to the psychoactive drug tribe, especially the tribe's psychedelic family. A UNIFIED VIEW.

One benefit of using the concept “psychotechnology” is that it allows us to see all these diverse techniques as related to each other in meaningful ways because each of them contributes to a larger, more

inclusive view of the human mind. These psychotechnologies are not merely a collection of scattered unrelated psychological oddities, as has been the case until recently; each takes its place contributing to a larger, multistate view of the human mind. So people who are interested in, say, psychedelics, meditation, and the martial arts come to realize we are all working together to draw a complete view of the human mind and to put the singlestate fallacy to rest.

## OVERCOMING THE SINGLESTATE FALLACY.

Psychotechnologies help us overcome the thinking error I call the singlestate fallacy. This is the erroneous assumption that all worthwhile psychological processes occur in our usual awake mindbody state. One origin of this error is a hangover from Freudian psychology. To Freud, almost all worthwhile thinking (secondary process thinking) occurred in our ordinary, awake, rational mature adult state. Exceptions were sleeping and dreaming, but they were primarily important because they were necessary supporters of secondary process thinking. All altered-state thinking, Freud maintained, occurred in the cesspool of the unconscious. Psychedelics and their sister psychotechnologies give overwhelming evidence that overturns this bias. (The enhanced abilities discussion below will give evidence of this.)

## COMPLETING THE MAP OF THE HUMAN MIND.

In *Altered States of Consciousness*, Charles Tart made one of my favorite points in psychological theory.

The most important obligation of any science is that its descriptive and theoretical language embrace all the phenomena of its subject matter; the data from [altered states of consciousness] cannot be ignored if we are to develop a comprehensive psychology. (page 5)

For example, by providing ways to explore the “antipodes of the mind,” as Benny Shanon called them, ayahuasca (and other psychotechnologies) help us discover, describe, and develop these other

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psychological lands and the fullest potentials of our minds. As with exploring the earth, there are psychological dangers too, and experienced mind-explorers learn to be alert to these problems as well as their payoffs.

When we apply Tart's intellectual standard to psychology, old assumptions give way, and a new paradigm emerges: (*Psychedelic Horizons*, Roberts, 2006, page 110):

cultural impact will be that for many people they asked the key questions: What other psychotechnologies are out there? How do we find them? What can we learn from them?

In discussions of diversity, an often missed aspect is how psychedelics help people look for and accept the psychotechnologies of other cultures.

Just as there is globalization of trade, communication, and finance, there is

### **A Comparison of Singlestate and Multistate Paradigms — General Assumptions —**

(MBS = *mindbody state*)

#### SINGLESTATE ASSUMPTIONS

#### MULTISTATE ASSUMPTIONS

##### **HUMAN NATURE**

Mindbody states other than our ordinary state are interesting curiosities, but of little professional or practical interest.

A significant human trait is the ability to produce and use a variety of mindbody states.

##### **REALITY**

Time, space and matter are real.  
Only experiences in our usual MBS are real.

The experiences of time, space, and matter depend on the MBS in which they are experienced.

##### **INTELLECTUAL CLIMATE**

Altered MBSs are not worthy of serious intellectual attention.

The major intellectual error of our time is the failure to recognize the fundamental primacy of mindbody states.

##### **PERSONAL EXISTENCE**

A person exists within a material body, specific place, and at particular times.

Personal existence may go beyond the usual limits of body-based identity, time, and space.

##### **KNOWLEDGE**

All knowledge comes through sense perception and reason.

Reason and perception differ from one MBS to another

...what will we learn from a recipe that combines hypnosis, psilocybin and deep breathing, while listening to Morten Lauridsen's transcendent

*O Magnum Mysterium?*

#### **SPOTTING AND ACCEPTING NEW PSYCHOTECHNOLOGIES.**

The people I know in the multistate world were all invited to join this worldview via a specific psychotechnology and/or the mindbody state it produced. Some stayed with their original psychotechnology, and others realized that their first psychotechnology experience could lead to many others. (It's a bit like sex in this way.) In addition to psychedelics' varied benefits, perhaps their greatest long-term

worldwide trade in psychotechnologies—various types of meditation, yoga, martial arts, psychoactive drugs, prayer, breathing techniques. These are parts of the cultural import-export trade in psychotechnologies. Jeffrey Kripal, a professor of Religious Studies at Rice University, describes how Esalen Institute (as probably the best known explorer of psychotechnologies) imported mindbody psychotechnologies and hybridized them and Americanized them (*Esalen: American*

...some previously  
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*and the Religion of No Religion*, 2007). By showing that Tart's admonition to psychology should also be applied to a comprehensive study of religion, he implies a still larger point: all scholarly, scientific, and practical fields would be strengthened by considering how psychotechnologies can enrich them.

INVENTING NEW PSYCHOTECHNOLOGIES.

But expanding the options open to the human mind and fulfilling its multistate potentials are not limited to using the mindbody psychotechnologies we now have at hand or limited to new, imported ones. We can move beyond only discovering current psychotechnologies, only exploring them, and only developing the states they produce: we can invent new ones. The simplest example is inventing new psychoactive drugs. The Grofs' Holotropic Breathwork™ is a nondrug example.

So far, most people use one psychotechnology at a time, but beyond this await psychotechnological inventors and engineers who will sequence existing psychotechnologies in novel ways and combine them into new recipes. For example, what will we learn from a recipe that combines hypnosis, psilocybin and deep breathing, while listening to Morten Lauridsen's transcendent *O Magnum Mysterium*? Obviously, the construction and design of new mindbody states should be approached cautiously and explored carefully; I am a fan of our ordinary awake state because I suppose it has evolved over the years for our survival, and I find it eminently useful for day-to-day functioning, but it would be an example of the singlestate fallacy to suppose (wrongly) that it is the only useful state. Like synthetic chemical compounds, innovative materials, hybrid plants, and transgenic animals, mind design is derived from natural processes but moves us beyond the givens of nature. We can build novel kinds of perceptions, emotions, and cognition—new ways of using our minds. Psychedelics and other psychotechnologies provide systematic ways of thinking outside the box.

POSSIBLING THE IMPOSSIBLE.

Grof's *When the Impossible Happens* (2007) illustrates that some previously "impossible" events may be impossible in our ordinary mindbody state, although not

in other states. When we say something is "impossible," we should qualify that by adding "according to what we know of our ordinary, awake state." By restricting us to look only in our ordinary mindbody state, the Singlestate Fallacy restricts our idea of what is possible in other states. *Possible, impossible, rare, unusual, paranormal*—all these words need to be reexamined when we realize that our normal awake state determines how we use them now. I expect that mind explorers will discover new kinds of human capacities in other mindbody states and that mind designers will invent or construct new kinds of thinking and other abilities. Additionally, these states may contain enhanced current capacities.

By boosting us past the singlestate fallacy, the psychotechnological paradigm gives us a fuller, multistate view of our minds. Thanks to psychotechnologies, we become more realistic about the vast human possibilities lying in (residing in) other mindbody states, about what it means to be a human, and they give us more realistic expectations of what our minds may be able to do. Not limited to our current psychotechnologies, these include spotting new psychotechnologies from other cultures and importing them, inventing new ones, and combining psychotechnologies to build new mindbody states and the enhanced abilities that lie within those states.

#### **Enhancing Our Repertoire of Abilities**

By increasing the repertoire of cognitive processes in our minds, psychotechnologies empower our mental processes. In a very real sense, installing additional cognitive processes (and emotional, perceptual and biological ones too), is similar to installing a new program in a computer. In our minds, as in computers, to use them fully, we need many programs.

programs : computers ::  
psychotechnologies : minds

The singlestate error of supposing that all useful information processing takes place only when we are in our ordinary awake state's program, while denying that other states have any use, is like claiming that there is only one good program to run on a computer. In this section we'll briefly

sample some innovations that psychedelic programs have brought. Except for the first item, they are more fully referenced and described in my book *Psychedelic Horizons*.

#### COGNITIVE ENHANCEMENT.

As I was writing this, I heard the postman delivering my mail and took a break to open it. There on page B4 in the Jan. 11, 2008, number of *The Chronicle of Higher Education* [*higher* in the sense of colleges and universities, not higher in the MAPS meaning] is a brief article about “pill-popping professors” using modafinil (Provigil) to strengthen their cognitive processes. The article includes seven comments about chemical enhancement, but none of the comments considers the problem of choosing not to function at one’s highest ability, as modafinil allegedly supports.

Suppose for a moment that modafinil and/or other drugs do improve cognitive functioning. Service to humanity makes an occupation a profession rather than just a way of earning income. With a professional duty to serve to the best of their ability, don’t educators, health professionals, scientists, and other professional have a duty to do the most they can for humanity’s sake? Is failure to perform at the top of one’s ability, say by not taking modafinil, a failure to live up to the ethical standards of one’s field, a dereliction of professional duty? As this question illustrates, mindbody psychotechnologies open a jungle of complexities for bioethicists.

#### A NOBEL PRIZE, MAYBE 2.

Kary Mullis, winner of a Nobel Prize for inventing the PCR technique, attributes his main insight to his ability to visualize cellular molecular processes, and he says he learned that cognitive skill thanks to his experiences with LSD. He is quite clear about the connection. A less clear example of using psychedelics to provide scientific insights is the report that Francis Crick, co-discoverer of the structure of DNA, had his insight thanks to LSD. In a newspaper obituary, reporter Alun Rees claims that when he challenged Crick to attribute his insight to his use of LSD, Crick did not deny the idea but did threaten to sue Rees if he printed it. Like modafinil now, LSD was a 1950s

cognitive enhancer.

#### PROBLEM SOLVING IN BUSINESS.

As the age of personal computers began, there was intense competition among programs to be accepted as the standard for the field. “The big quandary for software companies was getting into the market place, finding shelf space,” said Bob Wallace in an interview for BBC-TV. Bob came up with the idea of shareware, and he says that idea occurred to him thanks to altered states—micrograms for Microsoft. In an earlier study of creative problem solving, Stanford professor Willis Harman gave LSD to 27 people who were stuck with unsolved problems in engineering, design, academic, and similar work. During the carefully structured and monitored sessions, they relaxed, listened to music, ate snacks, and discussed their problems in small groups, then worked individually for 3 to 4 hours. Here again, they were successful by using psychedelic psychotechnologies to solve practical work problems.

#### INTELLIGENCE AND META-INTELLIGENCE.

Cognitive psychologist Howard Gardner is best known for his theory of multiple intelligences; he defines intelligence as the ability to solve problems or produce goods of value in a society. The examples above meet these criteria, so do we have evidence that the cognitive processes installed by psychotechnologies sometimes can boost intelligence? If we use psychologist Robert Sternberg’s definition of intelligence as “mental self management,” then increasing the degree of mental self management increases intelligence, and psychotechnologies increase the number of mental information processing programs we can select from, so they increase intelligence.

However, like most specialists on intelligence, Gardner and Sternberg limit themselves to problem solving and mental self management in our ordinary awake state. To me, the skill of selecting which state to use is a higher order mental self management operation that is prior to using any selected state, so I think this cognitive process deserves the name *metacognition*

Clearly, this is not to say that all mindbody psychotechnologies always make us more intelligent. Just check out

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at the top  
of one’s ability,  
say by not taking  
modafinil, a failure  
to live up to the ethical  
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professional duty?

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the nearest drunk. What we do see, however, is that learning to select the right psychotechnology for the right purpose, at the right time can benefit humanity at large and individuals. Enormous amounts of metaintelligence research need to be done to answer: Which psychotechnologies? Taken by whom? For what purposes? Under what circumstances? We have vast storehouses of information about how people learn to be intelligent in our ordinary mindbody state, thanks to psychedelics and other mindbody psychotechnologies. Now we need to ask similar questions of other states. Expanding intelligence to include other states leads us to expanding other topics too.

THE MAJOR INTELLECTUAL OPPORTUNITY OF OUR TIMES.

Just as additional problem solving abilities and new kinds of mental self-management reside in other mindbody states, other psychological skills have their analogs in other mindbody states too. In psychology, for example, we can ask how learning and sense of self vary from one state to another. In biology, we can examine the underlying neuronal processes and immune system functioning differently. In theology we might ask how religious experiences vary from one state to another. The arts and sciences can both study other mindbody states and use them, as in Mullis's example, to think freshly about their topics. We can take almost any topic and ask what I call the Central Multistate Question: **How does/do \_\_\_\_\_ vary from mindbody state to mindbody state?**

Remember all the psychotechnologies that exist and the states they produce, then insert your favorite topic(s) into the question. All the knowledge and all the research and all the questions we have about these topics as they exist in our ordinary, normal, awake state get reasked multiple times for all other states. This question blows the roof off current singlestate limitations in the sciences, social sciences, arts and humanities, law, medicine, education, and other fields that use the human mind and study it—now our *multistate* mind. This is practically everything we do.

While psychotechnologies' enrich-

ment of music and the arts is widely acknowledged, it is time to recognize their benefits in advancing science and problem solving in business. Psychotechnologies prod us to extend the study of intelligence to include how to select the right mindbody state for various purposes, and they challenge us to explore the multistate prospects of other abilities including intelligence but not limited to it. But how do we learn to use the full range of psychotechnologies, particularly psychedelics, for their beneficial effects while reducing their damaging effects?

### **Multistate Theory**

*Psychotechnology* is one of three ideas which weave together into multistate theory. (See *Psychedelic Horizons*.) We've already run into the other two. Mindbody state is the second. *Residence* is the third. MINDBODY STATE OR STATE OF CONSCIOUSNESS.

Here I have simply substituted *mindbody* for *consciousness* as Charles Tart uses it "an overall pattern of biological and mental functioning at any one time." I substitute *mindbody* because the word *consciousness* has too many meanings, and I've found that people who are talking about quite different things all use the word *consciousness* and think they are talking about the same thing but are actually talking at cross purposes.

For example, in common language, we might say someone is now conscious, but last night was asleep or in a coma. Someone with a political bent will speak of *women's consciousness* or *worker's consciousness*; here they mean the thoughts and feelings that result from their places in society. If someone has *environmental consciousness*, we are likely to mean that person habitually thinks about environmental issues. A saint or holy person may have a *higher level of consciousness*; indicating a degree of spiritual development. And, of course, there are psychobiological states such as Tart means them, overall patterns of functioning.

The word *mindbody* also has the advantage of explicitly emphasizing that we are talking about a unified combination of mind and body taken as a whole. *Mindbody* makes the meaning clearer and not so ambiguous; although it begs the question: When does one mindbody state

change to a new one? I expect this will remain difficult to resolve and that different definitions will be useful for different purposes.

#### RESIDENCE.

The third term of multistate theory is residence. *Residence* expresses the idea that all human abilities, experiences, thoughts, emotions, and so forth take place in mindbody states, are expressions of those states. When a psychotechnology produces a mindbody state, then we can explore that state to discover its resident abilities. Again an analogy helps: just as different musical instruments produce their distinctive sounds, different mindbody states produce their distinct abilities, experiences, etc. Just as an oboe and a violin express the note C in their characteristic voices, various mindbody states express intelligence, thinking, and other potentials in their distinct ways.

Psychotechnologies, mindbody states, and residence help us recognize the singlestate fallacy and overcome it. They integrate the enormous variety of psychotechnologies and states into an overall multistate theory. They promote specific research hypotheses and formulate broad-scale agendas. They promote experimentation using psychotechnologies and mindstates—sometimes as independent and sometimes as dependent variables. Like electronic, chemical, biological, material, and other technologies before them, psychotechnologies offer broad horizons for unknown discoveries in the future of human development.

Most important, as the quotation from Charles Tart implies, without psychotechnologies, we cannot have a complete view of the human mind. Because we use our minds in everything we do, our view of our minds determines what we expect of ourselves and of humanity—what we can learn, what we can do, who we are. It determines what we think are possible and impossible. If our view of our minds is wrong—rather too restricted—then our accomplishments are restricted and our human future is bound to the singlestate fallacy. Psychotechnologies free us from a limited view of our minds and encourage us to develop their full multistate future.

#### INSTITUTE FOR MINDBODY STUDIES.

How can we achieve these goals most effectively? Until now much mindbody development—especially psychedelic—has been informal and outside our current institutions. In *Psychedelic Horizons*, I proposed an Institute for Multistate Studies. But given the large number of psychotechnologies and the larger number of topics to be looked at in each of them, it now seems to me that a large number of such institutes would be needed. Perhaps an Institute for Psychedelic Studies would focus on that specific psychotechnology. Others on the implications for a professional field or academic discipline—say, an Institute for the Law and Mindbody Studies.

#### MULTISTATE GRANTS AND FELLOWSHIPS.

In addition to organizing new centers and institutes, a large foundation could fund research using existing universities, research institutes, and study centers. Grants and fellowships would empower existing fields away from their singlestate limitations and toward more completeness: health, law, education, politics, religion, arts, sciences, humanities—these and others. They would be fulfilling Charles Tart's injunction: "The most important obligation of any science is that its descriptive and theoretical language embrace **all** the phenomena of its subject matter."

#### **Summary: Surviving and Thriving**

Solving practical problems, inventing scientific ideas and instruments, developing and using our complete range of thinking programs, becoming more realistic about our minds' cognitive abilities and learning to use their full repertoire, recognizing the full ecology of human brains and bodies and adapting with new skills—to anthropologists, evolutionary biologists, and developmental psychologists, these are the characteristics of successful cultures, species, and individuals: they survive and thrive. Used skillfully and carefully, psychotechnologies promote surviving and thriving. •

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